
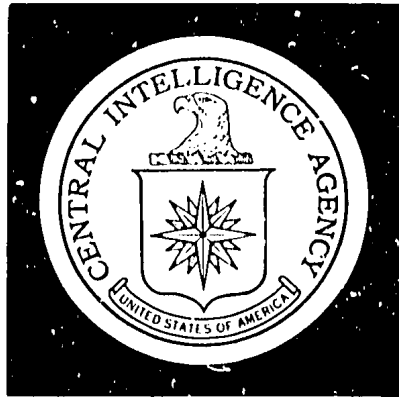


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# Intelligence Memorandum

*Recent Construction at North Vietnam's Jet Airfields*

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September 1969

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CENTRAL INTELLIGENCE AGENCY  
Directorate of Intelligence  
September 1969

INTELLIGENCE MEMORANDUM

Recent Construction  
at North Vietnam's Jet Airfields

Introduction

When allied air operations were stopped north of the 19th parallel in March 1968, only three of North Vietnam's seven jet airfields -- at Phuc Yen, Kep, and Gia Lam -- were open for jet fighter operations. Moreover, most aircraft had been dispersed to bases in Communist China or to the international airport at Gia Lam, the only North Vietnamese airfield not subject to attack. Allied bombing also had hampered work on two new airfields that had been under construction for at least two years. This memorandum discusses the construction work that has been observed on jet airfields and related facilities in North Vietnam during the past 18 months and the significance of this work.

*Note: This memorandum was produced solely by CIA. It was prepared by the Office of Economic Research and was coordinated with the Office of Current Intelligence.*

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### Opening Jet Airfields

1. Work to reopen jet airfields apparently was assigned a high priority after the March 1968 halt to bombing operations north of the 19th parallel. Within two months, jet flights were resumed from Kien An, just outside of Haiphong, and from Hoa Lac, 20 miles northwest of Hanoi\* [REDACTED] The last of the jet fields to be reopened north of the 19th parallel was the field at Cat Bi, which became serviceable late in 1968. Work at Cat Bi was undertaken at a slower pace probably because of its proximity to the field at Kien An.

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2. Construction efforts on new jet airfields also were accelerated following the bombing halt. The two new fields at Yen Bai (70 miles northwest of Hanoi in the Red River valley) and Bai Thuong (at the northern end of the Panhandle just south of the 20th parallel) were serviceable by May 1968. Both fields had been under construction since at least 1966. Construction started in September 1968 on a third new airfield at Duong Suong, 20 miles southwest of Hanoi. The field became operational in April 1969 when the runway was paved with crushed rock. The North Vietnamese may eventually surface the Duong Suong runway with concrete or pierced steel planking, but no resurfacing work has been observed.

3. The North Vietnamese did not make repairs to their most southerly jet airfield at Vinh until well after the complete standdown in bombing operations in November 1968. Repair work at Vinh was completed in July 1969, and in August MIG-21's from Bai Thuong landed there for the first time. Photography [REDACTED] shows that preparations are being made to lay pierced steel planking on the runway's crushed rock surface.

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### Aircraft Shelters and Hardened Facilities

4. Rudimentary aircraft shelters (also called hangarettas) for concealment and protection against weather have been identified through photography at six of North Vietnam's ten jet airfields. These shelters -- large enough for one fighter aircraft

\* For a list of selected airfields in North Vietnam, see the Appendix.

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[redacted]

and constructed in the form of an A-frame or quonset hut -- are easily erected and normally are covered with canvas or wood. Most of the 31 shelters observed thus far have been located in established aircraft dispersal areas some distance from runways

[redacted]

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5. North Vietnamese efforts to harden aircraft facilities have been confined thus far to the Yen Bai and Phuc Yen airfields. Late in 1968 a tunnel with two reinforced concrete openings was observed being excavated into a hill near the runway at Yen Bai [redacted] At Phuc Yen, at least four tunnel openings were under construction in August 1969 in hills north of the aircraft dispersal area. The tunnels at these two airfields probably are designed to serve as underground hangars and service areas.

[redacted]

[redacted]

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[redacted] the tunnels at Phuc Yen and Yen Bai may eventually be large enough to handle up to a total of 80 MIG fighters, or about 70 percent of the jet fighter force present in North Vietnam.

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Chinese and Soviet Role

6. Both Communist China and the USSR have given the North Vietnamese considerable assistance in building and improving jet airfields. The Chinese are believed to have been entirely responsible for constructing the new airfield at Yen Bai. [redacted]

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[redacted] photography showed that a traditional Chinese practice was followed of pouring concrete runway squares by hand and then curing the concrete under portable huts. The Chinese also probably directed the construction of the new airfield at Duong Suong, although firm evidence is lacking. The site of this field -- a low marshy area on the edge of a mountain ridge -- is similar to that at Yen Bai [redacted]

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7. Soviet engineering personnel have never been directly associated with airfield construction in North Vietnam, but Soviet techniques and material have been identified in airfield repair and improvement projects. The aircraft shelters in North Vietnam probably reflect a Soviet influence, and the pierced steel planking used on the runways at Bai Thuong and Hoa Lac was supplied by the USSR. Bai Thuong was made an all-weather airfield by laying pierced steel planking on the earth surface between the concrete touch-down pads previously constructed at each end of the runway [redacted]. In addition, the Soviet practice of using prefabricated concrete slabs to form runways and parking aprons was first observed at Kien An in June 1968.

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Conclusions

8. North Vietnam has greatly increased the operational flexibility and range of its air force with the repair of its seven jet airfields and the construction of three new fields since the bombing halt. Furthermore, the construction of aircraft shelters and hardened facilities indicates that the North Vietnamese are developing a greater capability to service and sustain their own aircraft as they are returned from bases in China. Since April 1969, photography has confirmed that at least 25 MIG-21's have been moved back into North Vietnam [redacted]

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9. Construction work during the next year probably will be devoted largely to building more permanent facilities at existing airfields. Additional tunneling may appear at Yen Bai and Phuc Yen, and similar facilities may be built at Bai Thuong and Duong Suong. New airfields, however, may be added that have a capability to support limited jet aircraft operations. Photography indicates that such an airfield was started [redacted] in a river valley northwest of Vinh, some 18 miles from the Laotian border. The estimated runway dimensions (6,000 feet by 115 feet) indicate that this field could be used as an advanced base for limited jet operations over the Plaine des Jarres in Laos.

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## APPENDIX

Selected Airfields in North Vietnam

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Airfields	Dimensions (Feet)	Surface	Revetted Hardstands	Air Order of Battle <sup>a/</sup>	Aircraft Shelters	Comments
<u>Jet</u>						
Hanoi/Gia Lam	6,550 x 140 5,175 x 250	Concrete	30	3 AN-24 1 IL-18	Four A-frame	The country's international airport; runway extension and an underground command/control facility are under construction.
Phuc Yen	9,150 x 220	Concrete	37	35 MIG-21 17 MIG-15/17 4 IL-28	Five Quonset shape, north of field	The primary tactical airfield and base for MIG-21's.
Kep	7,140 x 150 6,100 x 110 (est)		39	6 MIG-21 10 MIG-19 5 MIG-15/17 3 UMIG-15	Four A-frames along Route 1A south of field	This is the second most important airbase; extension of the second runway continues at a leisurely pace (80 percent complete).
Hoa Lac	7,400 x 180	Pierced steel planking	22	14 MIG-15, 7	Eight Quonset shape, possibly canvas covered	This is the only airfield with three runways, each with a different surface; a bombing range which was used to train AN-2 pilots for an abortive 1967 raid on Laotian positions near Sam Neua is located near the airfield.
	7,000 x 180	Concrete		1 UMIG-15		
	6,000 x 150	Earth/laterite				

Airfields	Dimensions (Feet)	Surface	Revetted Hardstands	Air Order of Battle a/	Aircraft Shelters	Comments
Jet (Continued)						
Haiphong/Kien An	5,900 x 150	Concrete/ asphalt	35	17 MIG-15/17 1 UMIG-15		MIG-17's based here; also used periodically by light transports and helicopters; concrete slab fabrication area located here in September 1968.
Haiphong/Cat Bi	7,900 x 195	Concrete/ asphalt	32			Larger of Haiphong's jet air- fields, but the runway was not repaired; runway centerline adjusted to avoid craters; air- field could handle IL-28 Beagle aircraft.
Yen Bai	7,220 x 180	Concrete		2 MIG-21	Five A-frames over revetted hardstands	Photography [ ] con- firmed first use of MIG-21's here; aircraft dispersal area located in hills north of field; tunnels are located just east of runway.
Bai Thuong	7,300 x 150/110	Concrete/ pierced steel planking	58 (Some located as much as 2 miles from field)	6 MIG-21	Five located about 2 miles from field; Quonset shape, possibly canvas covered	Extensive ordnance/POL storage located near this field.
Duong Suong	8,280 x 110	Natural surface				This is apparently only a training base and has no taxiway or support facilities; a prob- able SA-2 training base is located five miles northeast of this airfield.

Airfields	Dimensions (Feet)	Surface	Revetted Hardstands	Air Order of Battle <sup>a/</sup>	Aircraft Shelters	Comments
<u>Jet</u> (Continued)						
Vinh	6,750 x 200	Laterite and natural- surface parallel strip	Ten dis- mantled, material used to fill bomb craters			Material from revetments was used to fill craters on runway; prep- arations being made to lay pierced steel planking to make this field all-weather.
<u>Non-Jet</u>						
Dien Bien Phu	3,500 x 90	Earth surface				Initial reconstruction activity was observed in [redacted] some crater repairs noted [redacted]
Dong Hoi	5,900 x 115	Earth surface (pierced steel planking removed)				Craters in each end of the runway were filled in, but no repair activity has been noted [redacted]
Lang Son	3,700 x 250	Crushed rock and asphalt	17			Nine miles south of Chinese border; wide runways are appar- ently intended for reciprocal- engine transports.
Hanoi/Bac Mai	4,150 x 125	Concrete	30 (in 1965)			Not in service. Headquarters for the North Vietnamese Air Force and Air Defense Forces and the Hanoi Air Situation Facility. Buildings have been built in some revetments.

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Airfields	Dimensions (Feet)	Surface	Revetted Hardstands	Air Order of Battle <sup>a/</sup>	Aircraft Shelters	Comments
<u>Non-Jet (Continued)</u>						
Na San	4,000 x 90	Concrete				Heavily damaged, but now serviceable to light aircraft.
Lao Cai	2,900 x 190	Earth				No confirmation of air activity at this field for several years; runway is serviceable but overruns are overgrown.

a. As of 21 August 1969. These totals are only indicators as training, maintenance, and inter-field flights may vary the number of aircraft stationed at any given base.

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